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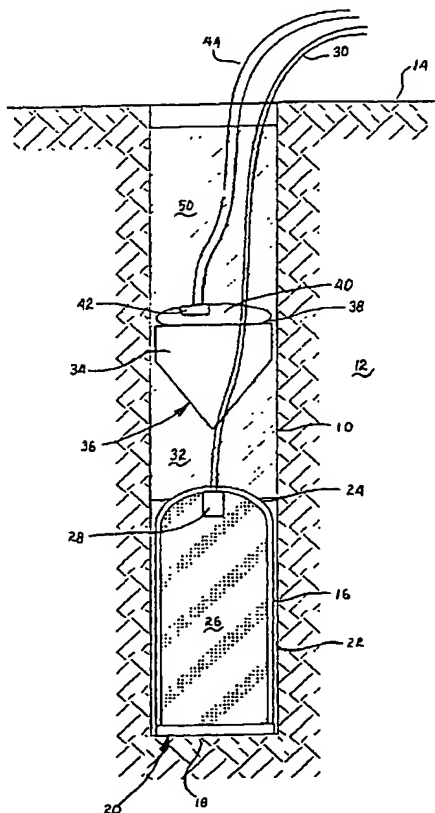
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(54) Title: ACTIVATED STEMMING DEVICE



(57) Abstract: Stemming apparatus which includes a member, a propellant charge and an initiator for igniting the propellant charge. Stemming (32) is placed into the hole (10) from the rock face (14) covering the cartridge to a desired extent. The stemming is consolidated by being tamped in position. A member (34), which is made from a plastics materials such as polypropylene, is then placed over the stemming (32). The member has a conical leading end (36) which faces downwardly into the stemming and, in this example, has a substantially planar trailing end (38) which faces upwardly. The maximum diameter of the member (34) is slightly less than the nominal diameter of the hole (10). A propellant charge (40) is placed on the member or, preferably, is incorporated in the member under factory conditions. An initiator or igniter (42) is engaged with the propellant charge. Control leads (44) lead from the initiator to the control unit which is used for firing the initiator (28).



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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**AMENDED CLAIMS**

[received by the International Bureau on 01 August 2003 (01.08.03);  
original claims 1-15 replaced by amended claims 1-15 (3 pages)]

1. Stemming apparatus which includes a member, a propellant charge incorporated in the member, and an initiator for igniting the propellant charge which then acts on the member in a predetermined direction.
- 5 2. Stemming apparatus according to claim 1 wherein the member is driven by the ignited propellant charge in the predetermined direction.
3. Stemming apparatus according to claim 1 or 2 wherein the member includes a tapered leading end or formation on a side which faces in the predetermined direction.
- 10 4. Stemming apparatus according to claim 3 wherein the member is conically shaped on the tapered leading end.
5. Stemming apparatus according to claim 3 or 4 wherein the member is constructed so that it is capable of flaring outwardly when moved in a direction which is opposite to the predetermined direction.
- 15 6. Stemming apparatus according to claim 1 wherein the member is shaped so that a gas generated force is produced by the ignited propellant in a direction which is opposite to the predetermined direction.
7. Stemming apparatus according to claim 6 wherein the member includes a recessed formation which contains the propellant charge.

8. Stemming apparatus according to any one of claims 1 to 7 which includes control means for controlling the firing of the initiator, the control means including an energy source and a timer for applying energy from the energy source to the initiator at a predetermined time.
- 5 9. A method of stemming which includes the steps of placing stemming material in a hole over a cartridge which includes a first propellant charge, positioning at least one member on the stemming material and igniting a second propellant charge, which is incorporated in the member, at a predetermined time relatively to the time at which the first propellant charge is initiated.
10. 10. A method according to claim 9 wherein a short time interval exists between the time at which the second propellant charge is ignited and the time at which the first propellant charge is initiated.
11. A method according to claim 9 wherein the first propellant charge is initiated substantially at the same time as the second propellant charge is ignited.
- 15 12. A method according to any one of claims 9 to 11 wherein the member is between the stemming material and the second propellant charge.
13. A method according to claim 12 wherein the second propellant charge is used to drive the member in a direction towards the cartridge.
14. A method according to any one of claims 9 to 11 wherein the second propellant charge is between the stemming material and the member.
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15. A method according to claim 14 wherein the second propellant charge is used to produce a gas generated force which is directed towards the cartridge.